

SixMix USB Broadcast Console™

10 INPUT, 6 CHANNEL RADIO STATION MIXER



The SixMix USB Broadcast Console is ideal for PC-based editing & production, radio automation, news rooms, internet broadcasting, or as an emergency studio.



Description

PRODUCT OVERVIEW

The SixMix USB Broadcast Console is a full-featured professional radio station audio mixer. Its 10 inputs include an integral A/D + D/A digital audio codec with a USB computer interface. The SixMix is designed for live broadcasting as well as recording, editing, and other production tasks. There is a stereo Program mixing bus, a Mix-Minus output, a Cue bus with internal Cue speaker, and comprehensive Headphones and Monitor systems. Other features include a Talkback system, Guest Headphone facilities, and accurate audio level metering. SixMix is ideally suited for use in a broadcast studio, news room, radio automation system, remote broadcast facility, emergency studio, internet broadcast station, or editing suite. With a footprint about the size of a laptop computer, it is a compact yet versatile and powerful audio production tool that is intuitive and easy to use.

PLENTY OF INPUTS, WITH USB

SixMix accommodates 10 inputs with 6 mixing channels. Channels 1 & 2 are for microphones. Mic 1 is normally used by the console operator; Mic

2 is for a Guest announcer. Each Mic channel includes an On/Off switch and a Cough button. External microphone processing equipment, e.g., a limiter or equalizer, can be inserted using the Mic Process Insert jacks. The Talkback facility allows the console operator to converse off-air with the Guest announcer.

Channels 3 through 6 are for line-level sources, e.g., CD players and tape decks. Both professional and consumer equipment can be used. Each Line channel accepts two stereo Line sources: the "A" input is for professional equipment; the "B" input is for consumer gear. Each Line channel has an A/B Input Select switch to select the desired source. Line channels can be mixed to the main Program output, or to the Cue bus for auditioning prior to air.

Input 6A is the built-in digital audio codec for recording and playback using a computer. Any O/S and software that supports USB 1.1 (or higher) can be used; no special software or drivers are needed. The audio quality of the codec is identical to the award-winning Henry Engineering USB Matchbox. Its advanced design yields audiophile-grade performance that exceeds the



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sound quality of any computer's internal sound card, and often surpasses that of 24-bit sound cards. There is no "digital grunge" or harshness, only smooth and natural sound with rock-solid bass and accurately detailed harmonics. The PC-Direct SPDIF digital output permits feeding digital PC-playback audio (only) to a transmitter or web-streaming interface.

NO ERRORS ON-THE-AIR

To avoid embarrassing on-air mistakes, mix bus assign buttons and LEDs are color-coded for quick visual recognition. Program buttons are RED; Cue buttons are BLUE. Color-changing LEDs follow the bus assignments: if a channel is "on the air", its LED will be RED; if the channel is in Cue mode, the LED will change to BLUE. Other console functions are also indicated by color-coded LEDs for error-free use.

The Program output is the main mix bus output of the console. It is monitored with LED VU meters: 0-VU = +4 dBu. The Record output is identical to the Program output, except that its level is -10 dBu. SixMix also includes a Mix-Minus output for use with a telephone hybrid. The MixMinus output is monaural and contains all audio on the Program bus, minus the channel used for the hybrid's receive (caller) audio.

The SixMix Cue system includes a built-in Cue speaker. The Exclusive Cue feature prevents a source from accidentally being on the air while it's being cued: when any source is in Cue mode, the Program assignment is overridden. When the source is taken out of Cue, the Program assignment is restored. (Note: this feature can be user-disabled.) The AutoCue feature lets the console operator hear the Cue bus through headphones.

The SixMix Monitor system allows the console operator to hear the Program mix bus, as well as off-air audio from the station's demodulator or tuner. The Monitor output can be programmed to mute when Mic 1 and/or Mic 2 is in use. The PC-Solo function is for "solo-listening" to the playback of the computer without having to assign the computer to the Program bus. This is useful for "listening through" the codec during mixing or editing on the PC.

READY FOR A GUEST ANNOUNCER

Two Headphone facilities are provided, one for the console operator, and a second output for a guest announcer. The main Headphone output follows the audio on the Monitor system. The SixMix AutoCue feature automatically switches the headphones to the Cue bus whenever any Line channel is in Cue mode. This eliminates the need to manually switch the headphones from Program to Cue each time a source is cued.

The secondary Guest Headphone output is for use with a Henry Engineering MultiPhones Guest Pod. This unit is a self-contained headphone amplifier with headphone jacks and a volume control. It is powered by the SixMix console. The Guest Headphone output follows the main Monitor audio, and is integrated with the Talkback / IFB system. (A second Guest Pod can be used to drive an announce booth monitor amplifier.)

The SixMix Talkback system allows the console operator to speak to the guest announcer, off-air, who is listening on a Guest Pod. Pressing the Talkback button interrupts "normal" audio, and inserts audio from Mic 1. If the guest announcer needs to reply, the console operator can switch Mic 2 (the Guest mic) into Cue mode, and hear the announcer, off-air, via the Cue system.

INSTALLATION MADE EASY

Mic logic Tally outputs are provided to interface with a Henry Engineering Superelay for control of On The Air tally lights. Other features include accurate LED VU meters that conform to ANSI standards for VU meter ballistic response, and a handy front panel stereo input jack for "quick connects" to MP3 players or other analog devices.

SixMix offers the best of both worlds: the reliability of an analog console with the efficiency of digital audio. Its audio performance is pristine, with electronic bus switching for clean, noise-free operation. All ICs are mounted in sockets for ease of maintenance. The internal linear power supply is robust and reliable. SixMix is ideal wherever there's a need for a compact yet fully functional professional broadcast audio console.



All connections are on the back panel. Both professional (balanced) and consumer (unbalanced) equipment can be used. A simple USB cable connects SixMix to any PC for digital recording and playback. The built-in A/D + D/A codec yields superb audiophile performance without digital artifacts.



SPECIFICATIONS*

MIC inputs	-60 dBu to -40 dBu, 10K, balanced, for low-Z professional microphones
MIC Process	Post-preamp loop-thru: -10dBu, unbalanced
LINE - A Inputs	+4 dBu, 10K, balanced, stereo (3X, 3A-5A)
LINE - B Inputs	-10 dBu, 10K, unbalanced, stereo (4X, 3B-6B)
USB Interface	Internal 16-bit codec: 32.0, 44.1, or 48.0 kHz, USB 1.1 or higher (6A)
AIR Input	+4 dBu, 10K, balanced, stereo
PGM Output	+4 dBu, balanced, stereo, 600 ohm load. Max output: +24dBu
MIXMINUS Output	0 dBu, unbalanced, 600 ohm load, Max output: +18 dBu
MONITOR Output	-10 dBu nom, unbalanced. 600 ohm load. Max output: +18 dBu
REC Output	-10 dBu, unbalanced, stereo, Max output: +18 dBu
BOOTH Output	For use with Henry Engineering MultiPhones Guest Pod
PHONES Output	For use with stereo headphones, 24 ohms or higher
SPDIF Output	SPDIF output of computer play audio
AC Input	115 OR 230 VAC, 9 watts. All units shipped set for 115 VAC unless indicated otherwise.
Power Supply	Internal linear supply with toroidal power transformer
Physical	12"W x 8"D x 3"H; 5 lbs
Approvals	CE, City of Los Angeles Electrical Test Lab

TYPICAL AUDIO PERFORMANCE

Frequency response	20 Hz - 20 kHz, +/- 0.5 dB
S/N, idle	93 dB
S/N, 1 Line ch. on	88 dB
S/N, 1 Mic ch. on	75 dB w/ 50 dB mic preamp gain
Mic chan. EIN	-125 dBu
THD	.004% at operating level; .002% at max level
IMD	.007% at operating level, .009% at max level
Input headroom	30 dB (pre fader)
Output headroom	20 dB (post fader)
Crosstalk	70 dB @ 1 kHz; 65 dB @ 10 kHz
MixMinus null	30 dB

All audio performance measurements per Audio Precision test set, referenced to +4 dBu operating level, with standard IEC-A weighting. Accurate noise and crosstalk measurements require inputs to be terminated with a suitable source impedance. Add 20 db to S/N measurements for total dynamic range.

**Specifications subject to change without notice. Rev. A 11/07*

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